Healthcare Workers' Perception of Welfare, Susceptibility to Covid-19 Infection and Stress Level during Covid-19 Pandemic in a Tertiary Hospital in Southwest Nigeria

*Kuforiji, A. A.   *** Onijingin, K.**   ***Daniel O. J.**
*Bamidele, J. O.   ***Agboola, A. J.**

Abstract

The emergence of the COVID-19 pandemic was an unprecedented challenge that faced communities and economies globally. Healthcare workers were the first-line fighters treating patients with COVID-19, and, as a result, they face a higher risk of being infected and exposed to long and distressing work shifts; these may have increased their stress levels. The study investigated healthcare workers' perception of their welfare, susceptibility to COVID-19 infection and stress levels during the COVID-19 pandemic. The cross-sectional survey research design was used, and a struc-

*Kuforiji, A. A.
Olabisi Onabanjo University, Ogun State
* Onijingin, K.
Rite Foods Limited
*Daniel O. J.
Department of Economics, Federal University of Technology, Akure
*Bamidele, J. O.
Department of Economics, Federal University of Technology, Akure
*Agboola, A. J.
Department of Economics, Federal University of Technology, Akure

tured questionnaire was administered to healthcare workers in a selected Tertiary Hospital in South-West Nigeria. The findings revealed that 35% of respondents had good welfare, and just a few (13.7%) had a good level of awareness of COVID-19 intervention funds. About 63% were in great shape, and over half (61.3%) of the respondents were highly susceptible to COVID-119 infection. Length of years in service, additional allowances, the value of additional allowances, susceptibility to COVID-19 infection and awareness of the COVID-19 intervention funds were found to be associated with good healthcare workers' welfare (p values 0.007, 0.005, 0.014, 0.008 and 0.010 respectively). This study recommends that the healthcare workers' work-life balance should be of paramount importance to employers, wherein their stress level is adequately addressed and their welfare is well taken care of through progressive relief interventions.

Keywords: Welfare, work-life-balance, COVID-19 relief funds, Healthcare workers

INTRODUCTION

The COVID-19 pandemic which began in late 2019 in China metamorphosed into a deadly plague and rapidly spread across the globe with the World Health Organization reporting over 510 million cases as of the 13th of May 2022 (WHO, 2022). Nigeria as a country has reported over 255,000 confirmed cases and 3,143 deaths within the same period (NCDC 2022). While the world battled to understand the virus's exact nature and its modes of transmission in order to eliminate it, health workers were unavoidably at the frontlines providing healthcare services in the midst of austere work environments, excessive workload, and their welfare neglected (Chatterjee, Kagwe, & Njoroge, 2020). This research rests on

the knowledge that workers' welfare transcends the monthly salary, but includes physiological, psychological and financial compensation (Hanaysha & Majid, 2018). The gap from extant literature revealed that during the COVID-19 pandemic, frontline health workers were mobilized; however, their welfare relief and stress levels were trivialized due to excessive workload and unkempt mental wellbeing (Shah, *et al* 2020).

The perspective of Chatterjee et al. (2020) on health workers being frontline soldiers against COVID-19 demonstrates that the health workers are confronted with an excessive workload in order to curtail and possibly eliminate the virus. Adeyeye (2020) observed similar practice in Nigeria which as a country had experienced a drastic economic downturn with a negative impact on individual and household incomes, making food insecurity prevalent, while at the same time jeopardizing workers' welfare. The compounding effect of the economic downturn and COVID-19 pandemic gave rise to the need to disburse relief funds to the citizens, including the healthcare workers, during the pandemic. Based on the foregoing, it becomes important to investigate healthcare workers' perspectives of the COVID-19 relief funds and their well-being in terms of their welfare and stress levels. The investigation was necessary to prevent the continuous drop in healthcare workers' morale resulting from inadequate welfare or excessive stress level experienced by front-line health workers. Complaints from this category of workers have largely been about the application of the interventions, their welfare and stress levels (Adeloye, *et al* 2017; Hanafi, 2021; Oleribe, et al., 2018). Hence, the perception of healthcare workers at the Olabisi Onabanjo University Teaching Hospital (OOUTH) was examined along with their welfare, susceptibility to COVID-19 infection, COVID-19 relief funds and stress levels.

Literature Review

The emergence of the COVID-19 pandemic was an unprecedented challenge that faced communities and economies globally. Governments, organizations and individuals from various sectors needed to come together to respond to the global emergency. (WHO, 2020) Many countries' especially the low and middle-income ones have health systems that are

inadequately prepared to respond to emergencies. Similar to the unprecedented Ebola outbreak in western Africa, the emergence of COVID-19 confirmed the severe consequences of weakened health systems on populations, the economy and society which are a result of poor working conditions of health service workers at the moment of the outbreak (Wiskow, 2017).

Dieleman, et al. (2016) opine that many Government health care expenditures have not been adequate to sustain robust health systems; hence the need to solicit help. COVID-19 welfare (fund) within the context refers to the mobilized N2 trillion the Federal Government of Nigeria earmarked as an economic stimulus package to tackle the effects of COVID-19 on the economy (Unini, 2020). Sources of COVID-19 funds include the World Bank Health fund, the Bill and the Melinda Gates Foundation and the European Union fund set aside to mitigate the effect of the pandemic on the economy (Oyeleke, 2020; Sanni, 2020; Yahya; 2020). Olatunji (2021) described the COVID-19 fund in Ogun state as money donated by Kensington Adebutu and Ibikunle Amosun which were N100 million and N25m respectively. The United Nations, due to the weightiness of the COVID-19 pandemic, diverted funds set aside for humanitarian needs that could have created an environment in which cholera, measles and meningitis would no longer thrive to coronavirus disease elimination in order to achieve a new sustainable and inclusive economy that leaves no one behind (António, 2020).

Health Workers

Rose, Hartnett and Pillai (2021) defined health workers as the permanent or temporary frontline personnel who offer medical or auxiliary services to those who are treated for COVID-19. Logasakthi and Rajagopal (2013) argued that for an employer to meet the legal requirements in India, health, safety and welfare facilities must be in place, but employers repressed the workers by paying lesser salaries and expecting more output in an unsatisfactory working environment which impedes the worker's welfare on the long run. The international Labour laws and the labour laws in Nigeria

likewise support that certain requirements must be met by the employer in terms of the workers' welfare and safety while at work.

Access to quality healthcare during the pandemic depends on the availability of adequately trained and motivated health workers. Health and decent work are vital for social cohesion, human development and economic growth; therefore, the health sector is primarily about people; without health workers, there can be no healthcare system that would adequately take care of the sick. Yet, health workforce shortages and ill-fare among the healthcare workers persist (Wiskow, 2017). Nearly all countries face challenges in recruiting, deploying and retaining sufficient numbers of well-trained and motivated health workers where they are needed. Decent work deficits brought about by health workers' discontentment are among the key reasons for this situation (Wiskow, 2017)

Health workers' welfare and wellbeing

Zhang, et al. (2020) postulated that medical health workers are first-line fighters treating patients with COVID-19. As a result of this task, they face a higher risk of being infected and are exposed to long and distressing work shifts to meet health requirements. The exposure is a protracted source of distress, most especially when their welfare is not adequately addressed. Chirdan, *et al* (2009) posited that the success of the healthcare industry is dependent on how human labour is managed. Poor worker motivation can greatly affect health outcomes and patient safety. Odubanjo (2020) in a conversation about where COVID-19 has left Nigeria's health system asserted that Nigeria does not give health workers a comfortable environment to work in; therefore, the pressure of not getting good remuneration, unavailability of work instruments, lack of personal protective equipment, and insecurity in the country have greatly affected the morale and productivity of healthcare workers.

Wiskow (2017) argued that long hours, shift work and night work hours, emotional and mental fatigue, disruption of the sleep rhythm due to shifting work and various illnesses, such as musculoskeletal disorders and de-

pression damage healthcare workers' general wellbeing. Workers in the health sector face a range of occupational risks associated with biological, chemical, physical, ergonomic and psychosocial hazards. Onigbinde, Babatunde and Ajagbe (2020) argued that the welfare of healthcare workers amidst the COVID-19 pandemic in Sub-Sahara Africa calls for concern as health workers had the fourth-highest rate of work-related health problems among all sectors. The sector ranked highest concerning exposure to biological and chemical hazards, work-related stress, violence and harassment (ILO 2017).

METHODOLOGY

This study adopted the survey research design to evaluate healthcare workers' perception of their welfare, susceptibility to COVID-19 infection, relief funds and stress level at Olabisi Onabanjo University Teaching Hospital (OOUTH), Sagamu, Ogun State, Nigeria. The adoption of the survey research design was justified on the ground of its capacity for collecting large data, which helps the researcher to make inferences about the target population. The unit of analysis is healthcare workers which include doctors, nurses, pharmacists, and physiotherapists. Healthcare workers who were specially selected as a result of the pandemic to work at the Ogun State COVID-19 Isolation Centre situated in OOUTH were also considered as part of the population of the study.

The statistical formula postulated by Yamane (1967) and used by Israel (2010) was used to determine the sample size of this study with a 95 per cent confidence level and 5 per cent error tolerance level.

The population's statistical formula is as follows:

$$n = \frac{N}{\Sigma\,[(1 + N\,(e^2)]}$$

Where:

n = The desired sample size to be determined

N = Total population.

e = Accepted error limit of 0.05 on the basis of 95% confidence level. The attrition rate of 40% was factored into account for non-response, and this gave a total sample size of 300. The addition was based on the recommendation of Israel (2010). All healthcare workers who were available during the study period and consented were recruited for the study.

The data were collected through a self-administered questionnaire divided into five sections. Section 1 measured the respondents' biographic data: gender, age range, occupation category, academic qualifications, length of service, and the like. Section 2 measured the healthcare workers' perception of their welfare with 17 items. Section 3 measured susceptibility to COVID-19 infection; section 4 assessed health workers' perception of COVID-19 relief funds, while section 5 assessed the stress level of the respondents. A 5-point summated rating scale (Likert-type scale) was used for sections 2-4 with calibration of Strongly Agree (SA), Agree (A), Indifferent (I), Disagree (D), and Strongly Disagree (SD). Section 5 had ratings which ranged from Never Seldom, Sometimes, Often and Always, which scored 0,1,2,3,4 respectively. The welfare section of the questionnaire was adapted from Logasakthi and Rajagopal (2013). Susceptibility to COVID-19 and degree of stress were adapted from Raghavan, Jabbarkhail, and Ahmady (2020), while questions on awareness of COVID-19 relief funds were adapted from Sanni et al (2020).

Healthcare workers' welfare was measured by scoring each item as follows: strongly agree and agree were scored as 1, while indifferent, disagree and strongly disagree were scored as 0 for positively-scaled questions. This was reversed for negatively scaled questions. These were added together to give a possible minimum of 0 and a maximum of 17. This was converted to a percentage, and then scores < 50 were graded as poor, while scores e" 50 were categorized as good.

Susceptibility to COVID-19 was scored, using four (4) questions graded in a way similar to the above. Those who scored less than 50 were cat-

egorized as having low susceptibility, while those e" 50 were categorized as having high susceptibility.

Awareness of COVID-19 funds was measured using six (6) items and graded similar in a way comparable to what has been described above. Scores < 50% were categorized as poor, while scores e" 50 were categorized as good.

The degree of stress was measured using 25 items. The sum total of the responses was categorized into great shape (0 -25), low-moderate (26-50), moderate-high (51-75) and very high (76-100).

Ethical consideration

Ethical approval for the study was obtained from the Health Research and Ethics Committee of the Olabisi Onabanjo University Teaching Hospital (OOUTH-HREC). Respondents were informed about the objectives of the study, and written consent was obtained from each of the respondents before the administration of the questionnaire. Participants were assured of confidentiality and anonymity of the data collected. Data were stored in a cupboard with a lock, and only the principal investigator had access to it. Electronic data were encrypted and pass-worded to prevent loss of information.

RESULTS

Table 1: Sociodemographic characteristics of respondents

Variable n= 300	Frequency	Percentage
Sex		
Male	119	39.7
Female	181	60.3
Age		
18-30	90	30.0
31-40	103	34.3
41-50	58	19.3
>50	49	16.3
Occupation		
Doctors	123	41.0
Nurses	69	23.0
Pharmacists	21	7.0
Laboratory Staff	27	9.0
Physiotherapist	13	4.3
Health Attendant	41	13.7
Other Occupations	6	2.0
Education		
Primary	1	0.4
Secondary	42	14.0
Tertiary	257	85.6
Length of service		
1-5	163	54.3
6-10	40	13.3
11-15	16	5.3
16-20	24	8.0
21-25	57	19.0
Caring for COVID-19 patients		
Yes	146	48.7
No	154	51.3
Additional stipend or allowance		
Yes	240	80.3
No	60	19.7
If Yes, How much? (in naira) (n = 240)		
<10,000	18	7.5
>10,000-<20,000	189	78.8
>20,000-<50,000	18	7.5
>50,000-<100,000	4	1.7
>100,000	11	4.5

Table 1 shows the sociodemographic characteristics of the respondents. More than half (60.3%) were females, and more than a third (34.3%) were aged between 31 and 40 years. The majority (85.6%) had tertiary education and over half of the respondents (54.3%) had been in service for 1-5 years. Less than half (48.7%) were involved in the care of COVID-

19 patients with a large number (80.3%) benefitting from additional stipends or allowances at the time of the study. Over three quarters (78.8%) of the respondents who received additional stipends received amounts varying from 10,000 - <20,000 naira.
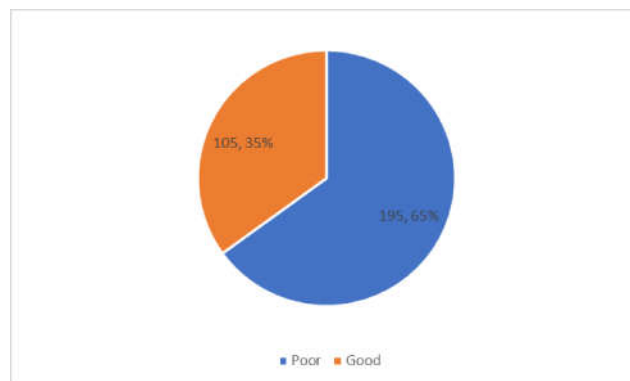

Figure 1: Healthcare workers' welfare

Figure 1 shows healthcare workers' welfare categorized into poor and good. Over half (65%) of the respondents had good welfare, while 35% had poor welfare.
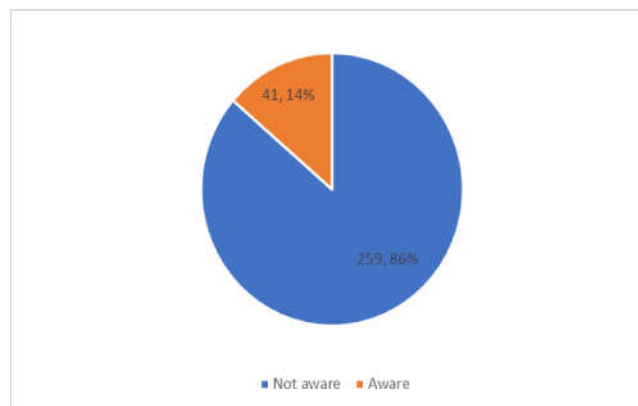

Figure 2: Healthcare workers' awareness of COVID-19 intervention fund

Figure 2 shows healthcare workers' awareness of the COVID-19 intervention funds. Majority (86%) were not aware, while only fourteen per cent (14%) were aware.
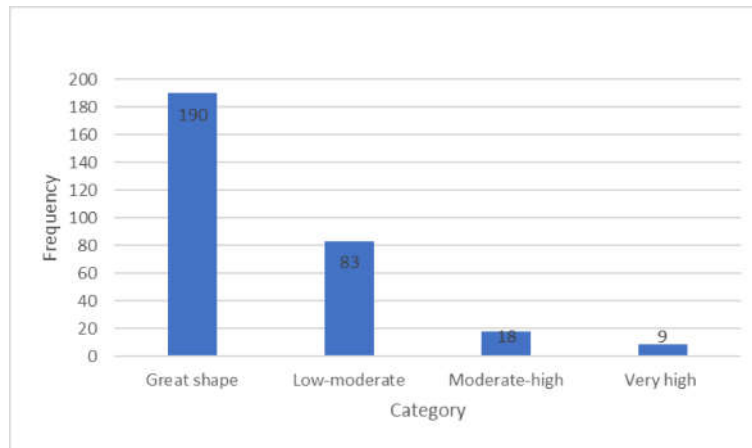
Figure 3: Degree of stress among healthcare workers

Figure 3 shows the degree of stress among healthcare workers. More than half (63.3%) of the respondents were in great shape, while 27.7%, 6.0% and 3% had stress levels categorized into low-moderate, moderate-high and very high respectively.
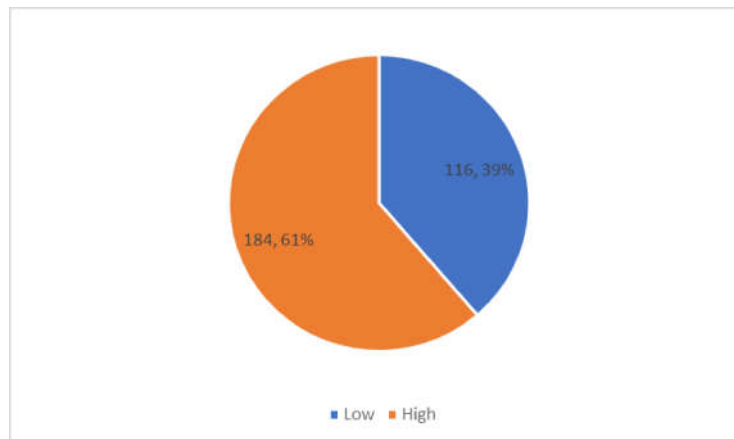

Figure 4: Healthcare workers' susceptibility to COVID-19 infection

Figure 4 shows healthcare workers' susceptibility to infection with COVID-19. Almost two-thirds (61.3%) had high susceptibility, while only 38.7% had low susceptibility.

Table 2: Relationship between sociodemographic variables, COVID-19 case management, awareness of COVID-19 intervention funds, degree of stress and healthcare workers' welfare

Variable n= 300	Healthcare workers' Welfare			
	Poor (195)	Good (105)	Chi square	P value
Sex				
Male	85(43.6)	34(32.4)	3.583	0.058
Female	110(56.4)	71(67.6)		
Age				
18-30	61(31.3)	29(27.8)		
31-40	75(38.5)	28(26.7)		
41-50	34(17.4)	24(22.9)		
>50	25(12.8)	24(22.9)	8.318	**0.040**
Occupation				
Doctors	90(46.2)	33(41.0)		
Nurses	38(19.5)	31(29.5)		
Other Occupations	67(34.4)	41(39.0)	7.015	**0.030**
Education				
Primary/ Secondary	28(14.4)	15(14.3)		
Tertiary	167(85.6)	90(85.7)	0.000	0.986
Years of service				
1-5	120(61.5)	43(41.0)		
6-10	23(11.8)	17(16.2)		
11-15	10(5.1)	6(5.7)		
16-20	13(6.7)	11(10.5)		
21-25	29(14.9)	28(26.7)	12.592	**0.013**
Caring for COVID-19 patients				
Yes	88(45.1)	58(55.2)		
No	107(54.9)	47(44.8)	2.792	0.095
Additional allowance				
Yes	163(83.6)	77(73.3)		
No	32(16.4)	28(26.7)	4.487	**0.034**
If Yes, How much?				
nil	32(16.4)	28(26.7)		
<10,000	14(7.2)	4(6.3)		
>10,000-<20,000	134(68.7)	55(52.4)		
>20,000	15(7.7)	18(17.1)	13.314	**0.004**
Susceptibility to COVID-19				
Low	62(31.8)	54(51.4)		
High	133(68.2)	51(48.6)	11.094	**0.001**
Awareness of COVID-19 funds				
Poor	177(90.8)	82(78.1)		
Good	18(9.2)	23(21.9)	9.292	**0.002**
Degree of stress				
Great shape	115(59.0)	75(71.4)		
Low – Moderate	61(31.3)	22(21.0)		
Moderate – High	13(6.7)	5(4.8)		
Very high	6(3.1)	3(2.9)	4.727	0.193

Table 2 shows the relationship between sociodemographic variables, susceptibility to COVID-19 infection, awareness of COVID-19 intervention funds, degree of stress and healthcare workers' welfare. There is an association between age, occupation and healthcare workers' welfare. Similarly, years in service, getting an additional allowance, the amount of additional allowance received, degree of susceptibility to COVID-19 and awareness of COVID-19 intervention funds are associated with the healthcare workers' welfare.

Table 3: Predictors of good healthcare workers' welfare

Variable	Adjusted odd ratio	95% CI	P value
Age	0.794	0.529-1.194	0.268
Occupation	1.066	0.790-1.437	0.676
Years of service	1.446	1.107-1.888	**0.007**
Additional stipend	8.753	1.909-40.122	**0.005**
Value of additional stipend	2.266	1.181-4.348	**0.014**
Susceptibility to COVID-19	0.488	0.287-0.832	**0.008**
Awareness of COVID-19 funds	2.627	1.266-5.452	**0.010**

Table 3 shows the predictors of good healthcare workers' welfare. The number of years in service, getting additional stipends, the value of additional stipends, susceptibility to COVID-19 and awareness of COVID-19 funds are possible predictors of good healthcare workers' welfare.

DISCUSSION

Assessing the perception of healthcare workers towards their welfare, susceptibility to the COVID-19 infection, awareness of the relief funds and their degree of stress while battling the COVID-19 pandemic was the major goal of this study. From this study, only 35% of the respondents perceived that their welfare was good. The World Health Organization recognizes that protecting health workers and ensuring their welfare is well taken care of is a key component to ensuring a functioning health system and a functioning society. This is more so in the face of a pandemic like COVID-19 where the health workers act as front liners to contain the spread of the disease and do their best to reduce the morbidity and mortality associated with the pandemic.

From this study, more than half (63%) of the respondents were in good shape, and over 30% had stress levels ranging from low to very high. Studies have recognized potential stressors for healthcare workers associated with the COVID-19 pandemic. These include an increased workload, the fear of getting infected and infecting members of their families, self-isolation after working with COVID-19 cases, resulting in disruption of social support coupled and lack of adequate personal protective equipment (Hossain, Sultana, Purohit 2020, Alessi, 2020). In addition, healthcare workers are further susceptible to psychological distress, anxiety, sleep disturbances, and burnout during and after major infectious disease outbreaks like the current pandemic (Lin, *et al* 2007). This corroborates the work of Onigbinde, Babatunde and Ajagbe (2020) that the COVID-19 outbreak has been discovered to have a huge toll on the physical, mental, and feelings of the world's public health workforce. This group of workers are at the front line of the COVID-19 outbreak reaction and as such are exposed to dangers that put them at the chance of contamination. It is therefore important to provide a suitable work environment that would cater for their wellbeing. Extant literatures have accentuated that healthcare workers are tremendously strained during the course of any pandemic because of the first-line roles played by the health workers in response to a pandemic. The delivery of healthcare services is being challenged by the combination of increased patients' care demands, inappropriate attention to their welfare and inability to balance life with

work which resulted in high-stress levels experienced by most healthcare workers. For the healthcare workers to put in their best at work, it is essential that the workplace management should set out objectives which would have potential benefits to workers' welfare and wellbeing that accrue from well-designed employee engagement interventions.

Over half (61.3%) of the respondents were highly susceptible to COVID-19 infection. Some respondents were involved in procedures that involved the generation of aerosols which increased their likelihood of getting infected. The result from this study corroborates the work of Mbaba et al. (2021) who found that the professional ethics of healthcare workers mandate them to attend to the sick despite the risk that exposure to COVID-19 brings. Despite the increased susceptibility of healthcare workers to Covid 19, the shortage of Personal Protective Equipment (PPE) has made it difficult for healthcare workers to protect themselves at the workplace. WHO's (2020) recent reports have revealed that exposure to SARS-CoV-2 while caring for patients due to a lack of PPE has led to many HCWs becoming infected by COVID-19, and many have sadly died. Ensuring the adequate provision of Personal Protective Equipment (PPE) and ensuring that all items of the necessary equipment needed for healthcare workers to carry out their duties adequately without unduly exposing themselves to getting infected by the COVID-19 virus should be made readily available by the employers. This is key to improving the welfare of healthcare workers. It is also crucial that healthcare workers feel secure with whatever policies are enacted by the government or their employers towards improving their welfare (Possamai, 2020).

This study found additional allowances, and the value of additional allowances was found to be associated with good healthcare workers' welfare. Adequate remuneration and special consideration should be given to the welfare standards provided for healthcare workers by providing safe working environments, social protection and elimination of occupational risks. Priority should also be placed on addressing the stigmatization of healthcare workers involved in managing COVID-19 patients and so considered high-risk individuals for transmission of COVID-19 infection (Ilesanmi & Fagbule, 2020). It is important for healthcare employers to provide quality insurance schemes in addition to sufficient financial sup-

port and hazard allowances to their employees during this time in order to motivate the workers for better performance in the face of a global pandemic (Possamai, 2020).

The work of Oleribe (2018) on healthcare workers' industrial action documented that poor welfare as a result of poor leadership and management of institutions is the most common cause of strike actions by healthcare workers. If leaders are genuinely concerned about the welfare of workers, then the workers can be motivated to use their skill, knowledge and ability to battle this novel virus (Onigbinde, et al., 2020).

Conclusion

COVID-19 is a novel disease that is not yet fully understood; there is, therefore, the need for enforcement of critical safety measures, provision of adequate personal protective equipment (PPE), and update safety training for health workers. Health workers are expected to take maximum precautions to prevent getting infected. Guaranteeing protection and satisfactory welfare for the health workers with the incorporation of insurance cover in case of accidental loss of life on account of contracting COVID-19 are exceptionally basic in combating the outbreak.

Health workers are the backbone of national health systems. To perform effectively, they need adequate pay, safe and healthy working conditions, appropriate education, continuing professional development, career opportunities, equal treatment and social protection. Assuring them decent work first requires recognition of their essential contributions to the health and wealth of their societies.

The study recommends that judicious use of allocated funds earmarked for healthcare welfare should be dispensed without giving room for suspicion. Furthermore, human beings are the organization's most valued asset; therefore, the healthcare workers' work-life balance should be of paramount importance to the Management wherein their stress level is adequately taken care of.

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